

BEFORE  
THE PUBLIC SERVICE COMMISSION OF  
SOUTH CAROLINA  
DOCKET NO. 90-187-E - ORDER NO. 90-615✓  
JUNE 15, 1990

IN RE:	Application of Duke Power Company for	)	
	a Certificate of Environmental	)	ORDER
	Compatibility and Public Convenience	)	GRANTING
	and Necessity for Construction of the	)	CERTIFICATE
	Jocassee Tie Fold-In Transmission Line	)	

This matter comes before the Public Service Commission of South Carolina (the Commission) by way of the Application of Duke Power Company (the Applicant or Duke) filed on March 1, 1990, seeking a Certificate of Environmental Compatibility and Public Convenience and Necessity under S.C. Code Ann., §58-33-10, et seq., for the construction of an 8.4 mile fold-in transmission line in Oconee and Pickens Counties, South Carolina.

Upon receipt of the Application, the Commission's Executive Director instructed the Applicant to cause to be published a prepared Notice of Filing and Hearing in newspapers of general circulation in the affected area in South Carolina. The Notice described the nature of the relief sought herein and provided general information on the manner in which interested parties might participate in the proceeding. The Applicant subsequently filed certain affidavits of publication indicating compliance with the instructions of the Commission's Executive Director. Additionally,

the Applicant served a copy of the Application on all parties as required by S.C. Code Ann., Sections 58-33-120 and 58-33-140 (1976).

A Petition to Intervene was filed by the Consumer Advocate of South Carolina.

A public hearing was held on May 23, 1990, in the Office of the Commission. Ronald L. Gibson and W. Larry Porter represented the Company; Elliott F. Elam and Nancy J. Vaughn represented the Consumer Advocate of South Carolina; and Sarena D. Burch appeared on behalf of the Commission Staff.

The Commission, based on the evidence in the record, makes the following findings and conclusions:

1. The Applicant testified concerning the need for the transmission line and the significant system planning criteria used in evaluating alternatives. The Jocassee Tie Fold-In line will connect the Jocassee 525-230 KV station to the Oconee-McGuire 525 KV line. This new connection will allow the flow of power from the Jocassee and Bad Creek Pumped-Storage Stations into Duke's 525 KV transmission system.

The Bad Creek Pumped-Storage Station, expected to begin operation in 1991, will add over 1000 MW of generating capacity to the Duke system which must be delivered to Duke's customers at the time it is demanded. The fold-in is necessary to provide the transmission capacity to deliver the power to Duke's customers under various operating conditions at Oconee Nuclear Station, Jocassee Pumped-Storage Station, Bad Creek Pumped-Storage Station,

and the possible outage of any of the lines or transformers connecting these stations to the Duke transmission system.

Duke testified that the Jocassee Fold-In is an essential addition to Duke's transmission facilities. With the addition of the Jocassee Pumped-Storage Station, Duke has the ability to store energy during periods of low demand for use during periods of high demand. This results in significant operating advantages and savings to Duke's customers. Based on the above testimony, the Commission finds: (a) That Duke has properly set forth the basis of the need for the line; (b) That the line will serve the interests of system economy and reliability; and (c) That public convenience and necessity requires construction of the line.

2. Duke testified that its staff, as well as outside experts performed studies in biology and archaeology to determine the impact of the proposed line on the environment. In addition, Duke obtained the assistance of EDAW, Inc., a landscape architectural and environmental planning firm, to assist with evaluation of alternate routes and to evaluate the effectiveness of Duke's visual mitigation criteria. The findings of these studies are summarized in Duke's Environmental Impact Statement. (Hearing Exhibit 1)

Duke testified that after its System Planning Department selected the best electrical alternative for the project, the line siting began with identification of a 59 square mile study area. The next step in routing the line was to identify important natural and man-made conditions that existed within the study area. This was accomplished using aerial photographs, topographic maps, and

field investigations. Existing land use and environmental data was also obtained from federal, state, and local agencies. A Geographic Information System (GIS) was used to identify different terrestrial characteristics such as wetlands, crop land, clear-cuts, pasture land, and forest type. GIS is a computer mapping system with the ability not only to store environmental data (such as topography, residences, natural and archaeological areas), but can make correlations with various types of data, such as land area which is visible from roads. The various environmental data categories were entered in GIS and were given weighted values that represent an appropriate level of constraint or opportunity for siting a transmission line. The composite total of all overlapping land use and environmental features is displayed in a map form to identify the areas of greatest routing opportunities, the areas with greatest constraints to routing, and the full range of conditions between.

A preliminary network of approximately 17 possible transmission line routes was developed. Further analysis of these routes reduced the alternatives to five (5). The five selected alternates were then compared against each other using 11 environmental categories. The alternate routes are shown on Figure 3-2 of the Environmental Impact Statement and a summary of the comparison of the five alternates based on the 11 environmental criteria is shown on Table 1. Based on the comparison of the environmental factors, route Alternate D was selected. See Figure 3-2 in the Environmental Impact Statement. Also, two of the five

alternatives were rejected due to operating constraints or reliability degradation. Out of the three remaining, the selected alternative was at least 12% lower in cost than the other two. (Hearing Exhibit 2) The total length of the route chosen is 8.4 miles, with 0.2 miles in Oconee County and the remainder in Pickens County. Of the total length, over eight miles is on property owned by Duke Power or its subsidiary, Crescent Resources.

After the final proposed alignment was selected, various state and local agencies were contacted in South Carolina to obtain their comments on how this general alignment affected area land use, wildlife habitat, and natural and historic areas. Duke testified that these agencies indicated agreement with Duke's selected route.

Duke also testified that the transmission line's environmental compatibility may be judged by the degree of visual impact on the areas it crosses. Therefore, Duke adopted visibility reduction techniques for the project. The transmission towers will be constructed of darkened galvanized steel to minimize visibility. The towers also will utilize a lattice framework to minimize structural mass and blend with the texture of woodland areas surrounding them. Conductor wire will have reduced sheen and visibility compared to existing wires. Vegetation "leave" and "special" areas under the lines will be maintained to maximize watershed protection. Of the total 8.4 miles of line length, less than 1-1/4 miles will be cleared and grubbed, and structures will be carefully sited to take advantage of background screening.

Duke testified that it has gone to great lengths to examine

alternatives and select a route for the transmission line which would minimize the impact on existing land use. Once a route was selected, Duke carefully examined and surveyed the area to identify specific environmental characteristics. Duke inventoried protected species, examined archaeological information, and conducted studies of water quality and the impact of construction and maintenance of a transmission line on fish and wildlife in the area. With respect to the visual impact of the transmission line, Duke reviewed alternatives and selected a route to ensure minimum impact on residences, public roads and recreational resources. Duke has taken great care to locate structures to minimize the visibility of the line and developed vegetation control and clearing plans for the entire route which will further minimize the environmental impact of this transmission line. Duke testified that based on the attention given to the environment and Duke's commitment to maintaining the transmission line with sensitivity to local development, the completed project will be compatible with the local environmental conditions.

The Commission finds, based on the above testimony, that Duke has set forth the nature of the probable environmental impact and that the impact of the line on the environment is justified, considering the state of available technology and the nature and economics of the various alternatives including the minimization of the visual impact of the line.

The Commission also finds that there is reasonable assurance that the proposed line will conform to applicable state and local

laws and regulations issued thereunder.


3. The Commission concludes, based on the findings hereinabove, that the proposed line complies with the provisions of the Utility Facility Siting and Environmental Protection Act, S.C. Code Ann., §58-33-10, et seq. (1976).

IT IS THEREFORE ORDERED:

1. That the Application of Duke Power Company for a Certificate of Public Convenience and Necessity to construct the Jocassee Tie Fold-In transmission line is granted.

2. That this Order shall remain in full force and effect until further Order of the Commission.

BY ORDER OF THE COMMISSION:

  
Chairman

ATTEST:

  
Executive Director

(SEAL)